



P.S.V. COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

(Inclusion Under Section 2(f) & 12(B) of the UGC Act, 1956)

(An ISO 9001: 2015 Certified Institution)

Bangalore - Chennai Highway, (NH-46),

Mittapalli, Balinayanapalli Post, Krishnagiri - 635 108.



COURSE OUTCOMES, COs, POs and PEOs MAPPING

REGULATION 2017

ANNA UNIVERSITY, CHENNAI

DEPARTMENT OF INFORMATION TECHNOLOGY


Dr. P. LAWRENCE, M.E., Ph.D.,
PRINCIPAL
P.S.V. COLLEGE OF ENGINEERING
& TECHNOLOGY
MITTAPALLI, BALINAYANAPALLI PO
KRISHNAGIRI Dt, 635 108,
TAMILNADU.



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DEPARTMENT OF INFORMATION TECHNOLOGY

MAPPING OF COURSE OUTCOME WITH PROGRAM OUTCOME

REGULATION 2017

PROGRAM OUTCOMES FOR IT

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

PEO-1	Preparation	To make sure that graduates will be expert in utilizing the deep knowledge of basic sciences, mathematics and Information Technology for the applications relevant to various streams of Engineering and Technology.
PEO-2	Core competence	To facilitate graduates to think logically, practice ultimate learning and will have the capacity to understand technical issues related to computing systems and to design best possible solutions.
PEO-3	Professionalism & Ethics	To allow graduates to get employment in organizations and establish themselves as professionals by applying their technical skills to solve real world problems and meet the various needs of industry, academia and research.

PROGRAM OUTCOME (POs):

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of sophisticated engineering problems.
PO2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.


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PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcome (PSOs):

PSO1	Ability to create, select, and apply appropriate techniques, resources, modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PSO2	Ability to manage complex IT projects with consideration of the human, financial, ethical and


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	environmental factors and an understanding of risk management processes, and operational and policy implications.
PSO3	Ability to adapt to emerging software and technologies to innovate ideas and solutions to existing/novel problems.

MAPPING OF PROGRAMME EDUCATIONAL OBJECTIVES WITH PROGRAMME OUTCOMES

A broad relation between the programme objective and the outcomes is given in the following table

PROGRAMME EDUCATIONAL OBJECTIVES	PROGRAMME OUTCOMES												
	1	2	3	4	5	6	7	8	9	10	11	12	
1	✓	✓											
2	✓	✓	✓	✓									✓
3			✓	✓	✓	✓		✓					3

MAPPING OF PROGRAM SPECIFIC OBJECTIVES WITH PROGRAMME OUTCOMES

A broad relation between the Program Specific Objectives and the outcomes is given in the following table

PROGRAM SPECIFIC OBJECTIVES	PROGRAMME OUTCOMES											
	1	2	3	4	5	6	7	8	9	10	11	12
1	✓	✓			✓				✓	✓		
2				✓			✓	✓			✓	
3												


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FIRST SEMESTER

HS8151		COMMUNICATIVE ENGLISH
CO1	Enable the development in sharing information about family and friends.	
CO2	Strengthen general comprehending skills and present lucid skills in free writing.	
CO3	Understand the basic grammar techniques and utilize it in enhancing language development.	
CO4	Foster an environment for reading and develop good language skills.	
CO5	Develop flair for any kind of writing with rich vocabulary and proper syntax.	

HS8151		COMMUNICATIVE ENGLISH													
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO3	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-

MA8151		ENGINEERING MATHEMATICS-1
C110.1	Compute Eigen values and Eigen vectors of a matrix, diagonalize symmetric matrices and similar matrices	
C110.2	Explain gradients, potential functions, and directional derivatives of functions of several variables.	
C110.3	Compute line, surface and volume integral using Gauss divergence, Green's and stoke's theorem.	
C110.4	Discuss analytic functions in heat and fluid flow	
C110.5	Extend the concept of contour integrals in evaluating Real integrals	
C110.6	Discuss Laplace Transform methods to solve initial value problems for constant coefficient linear ODEs	


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MA8151		ENGINEERING MATHEMATICS-1													
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO3	2	1	-	-	-	-	-	-	-	3	-	-	-	-	-
CO4	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-

PH8151	ENGINEERING PHYSICS
CO1	Discuss the Young's modulus and Rigidity modulus of elasticity of materials and its determination through experimental methods
CO2	Describe the characteristics of laser light and their application in semiconductor laser .
CO3	Discuss the principle behind the propagation of light through an optical fibre and its application in sensors.
CO4	Summarize the different modes of heat transfer.
CO5	Relate the quantum concepts in electron microscopes.
CO6	Describe the unit cell characteristics and the growth of crystals.

PH8151		ENGINEERING PHYSICS													
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO3	2	1	-	-	-	-	-	-	-	3	-	-	-	-	-
CO4	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-


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CY8151	ENGINEERING CHEMISTRY
CO1	Discuss the water related problems in boilers and their treatment techniques.
CO2	Explain the applications of adsorption in the field of water and air pollution abatement, the types of catalysis and the mechanism of enzyme catalysis
CO3	Describe phase rule in the alloying and the behaviour of one component and two component systems using phase diagram
CO4	Explain various types of fuels, their manufacturing processes and calculation of calorific theoretically
CO5	Summarize the principles and generation of energy in batteries ,nuclear reactors, solar cells, wind mills and fuel cells

CY8151		ENGINEERING CHEMISTRY													
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	3	-	-	-	-	-	-	-	2	-	-	-	-	-
CO3	2	1	-	-	2	-	-	-	-	3	-	-	-	-	-
CO4	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-

GE8151	PROBLEM SOLVING AND PYTHON PROGRAMMING
CO1	To know the basics of algorithmic problem solving
CO2	To read and write simple Python programs.
CO3	To develop Python programs with conditionals and loops.
CO4	To define Python functions and call them.
CO5	To use Python data structures -- lists, tuples, dictionaries.


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CO	PO1	PO 2	PO 3	PO4	PO5	PO 6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO1	PSO2	PSO3
CO1	3	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	3	-	-	-	-	-	-	-	2	-	-	-	-	-
CO3	2	1	-	-	2	-	-	-	-	3	-	-	-	-	-
CO4	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-

GE8152	ENGINEERING GRAPHICS
CO1	Familiarize with the fundamentals and standards of Engineering graphics
CO2	Perform freehand sketching of basic geometrical constructions and multiple views of objects.
CO3	Project orthographic projections of lines and plane surfaces.
CO4	Draw projections and solids and development of surfaces.
CO5	Visualize and to project isometric and perspective sections of simple solids.

GE8152 ENGINEERING GRAPHIC															
CO	PO1	PO 2	PO 3	PO4	PO5	PO 6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	1	-	-	-	-	-	-	-	1	-	-	-	-	-
CO3	2	-	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	-	-	-	-	-	-	-	-	2	-	2	-	-	-
CO5	2	-	-	-	-	-	-	-	-	2	-	1	-	-	-


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BS8161	PHYSICS AND CHEMISTRY LABORATORY
CO1	Determine the Modulus of elasticity of materials and Coefficient of Viscosity of liquids
CO2	Determine the Thermal Conductivity of bad conductor using Lee's disc method
CO3	Calculate the Compressibility of liquids and velocity of ultrasonic waves in liquids
CO4	Measure the wavelength of prominent spectral lines of Mercury Spectrum and particle size of powder using diffraction phenomenon and thickness of thin materials using interference phenomenon,
CO5	Determine the band gap energy of a semiconductor
CO6	Calculate water quality parameters such as hardness, alkalinity of the given water sample.
CO7	Estimate the amount of the given acids using conductometric titrations.
CO8	Estimate the amount of the given acids using pH titrations
CO9	Determine the amount of iron content in the given substance using potentiometric titration
CO10	Determine the amount of chloride content in the given water sample.
CO11	Exhibit ethical principles in engineering practices
CO12	Perform task as an individual and / or team member to manage the task in time
CO13	Express the Engineering activities with effective presentation and report.
CO14	Interpret the findings with appropriate technological / research citation.

BS8161		PHYSICS AND CHEMISTRY LABORATORY													
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO7	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-


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CO8	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO9	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO10	2	1	-	-	-	-	-	3	-	-	-	-	-	-	-
CO11	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
CO12	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
CO13	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
CO14	2	1	-	-	-	-	-	3	3	3	3	3	3	-	-

GE8151	PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY
CO1	To write, test, and debug simple Python programs.
CO2	To implement Python programs with conditionals and loops.
CO3	Use functions for structuring Python programs.
CO4	Represent compound data using Python lists, tuples, dictionaries.
CO5	Read and write data from/to files in Python.

GE8151 PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	-	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	-	-	3	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-

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SEMESTER-II

HS8251		TECHNICAL ENGLISH
CO1		Apply technical elements to LSRW of scientific and technical nature.
CO2		Convert information from nonverbal to verbal. .
CO3		Compose longer text and technical presentation.
CO4		Prepare reports, essays and job applications.
CO5		Analyze verbal analogies and technical articles

HS8251		TECHNICAL ENGLISH													
CO	PO1	PO 2	PO 3	PO4	PO5	PO 6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	-	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	1	-	2	-	-	-	3	1	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-

MA8251		ENGINEERING MATHEMATICS-11
CO1		Compute Eigen values and Eigen vectors of a matrix, diagonalize symmetric matrices and similar matrices
CO2		Explain gradients, potential functions, and directional derivatives of functions of several variables.
CO3		Compute line, surface and volume integral using Gauss divergence, Green's and stoke's theorem.
CO4		Discuss analytic functions in heat and fluid flow.
CO5		Extend the concept of contour integrals in evaluating Real integrals.
CO6		Discuss Laplace Transform methods to solve initial value problems for constant coefficient linear ODEs.


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MA8251 ENGINEERING MATHEMATICS-11															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	-	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	-	2	3	-	2	-	-	-	-	-
CO5	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-

PH8252	PHYSICS FOR INFORMATION SCIENCE
CO1	Discuss about Wiede mann Franz law and the conduction in solids.
CO2	Associate the concept of quantum electron theories with energy band structures.
CO3	Discuss the carrier concentration in semiconducting materials.
CO4	Explain the origin of magnetism and the properties of magnetic materials.
CO5	Discuss the working of Opto-electronic devices.
CO6	Summarize the basics of quantum structures and their applications in nano devices.

PH8252 PHYSICS FOR INFORMATION SCIENCE															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	-	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	2	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	-	-	3	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-



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BE8255	BASIC ELECTRICAL,ELECTRONICAL,AND MEASUREMENTAL ENGINEERING
CO1	Understand the fundamentals of electronic circuit constructions.
CO2	To learn the fundamental laws, theorems of electrical circuits and also to analyse them
CO3	Study the basic principles of electrical machines and their performance
CO4	To study the different energy sources, protective devices and their field applications
CO5	To understand the principles and operation of measuring instruments and transducers

BE8255 BASIC ELECTRICAL,ELECTRONICAL,AND MEASUREMENTAL ENGINEERING															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	-	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	-	-	3	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	1	-	-	2	-	-	-	-	-


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GE8291	ENVIRONMENTAL SCIENCE AND ENGINEERING
CO1	Understand the importance of biodiversity, its challenges, and its conservation, as well as how to identify different ecosystems.
CO2	Ability to apply social issues related to environmental pollution.
CO3	Analyze of various Natural resources
CO4	Summarize the water conservation methods and various environmental acts for environmental sustainability
CO5	Evaluate global human population patterns, factors influencing the distribution and mobility of human populations, economic activities and networks, and human impacts on the physical environment.

GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	-	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	-	-	3	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	2	-	-	2	-	-	-	-	-


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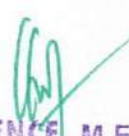
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CS8251	PROGRAMMING IN C
CO1	To develop C programs using arrays and strings.
CO2	And for developing applications in C using functions , pointers and structures.
CO3	To do input/output and file handling in C.
CO4	The main outcome of the new syllabus if for developing simple applications in C using basic constructs.
CO5	The main outcome of the new syllabus if for developing simple applications in C using basic constructs.

CS8251		PROGRAMMING IN C													
CO	PO1	PO 2	PO 3	PO4	PO5	PO 6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	-	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	3	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	-	-	3	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-


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GE8261	ENGINEERING PRACTICES LABORATORY
CO1	Study of pipeline joints, its location and functions: valves, taps, couplings, unions, reducers, elbows in household fittings.
CO2	Study of pipe connections requirements for pumps and turbines.
CO3	Preparation of plumbing line sketches for water supply and sewage works.
CO4	Hands-on-exercise:
CO5	Demonstration of plumbing requirements of high-rise buildings.

GE8261 ENGINEERING PRACTICES LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	2	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	-	-	3	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-


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CS8261	C PROGRAMMING LABORATORY
CO1	To develop programs in C using basic constructs.
CO2	For develop applications in C using strings, pointers, functions, structures.
CO3	To develop applications in C using file processing.
CO4	Programs using I/O statements and expressions.
CO5	decision-making constructs.

CS8261		C PROGRAMMING LABORATORY													
CO	PO1	PO 2	PO 3	PO4	PO5	PO 6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO2	2	-	-	-	3	-	-	-	-	2	-	-	-	-	-
CO3	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-
CO4	2	1	-	-	-	1	-	3	-	2	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-


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SEMESTER III

Course Name: MA8351- Discrete Mathematics

CO1	Summarize the concept of elementary mathematical logical arguments.
CO2	Apply basic counting techniques to solve combinatorial problems.
CO3	Associate the applications of Graph theory models and data structures.
CO4	Describe the concepts and properties of algebraic structures such as groups, rings and fields.
CO5	Extend the concepts of Boolean algebra in the area of lattices.
CO6	Apply the knowledge of argumental discrete mathematical problems.

CO-PO MAPPING

MA8351- Discrete Mathematics															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	1	-	-	-	-	-	-	-	-	-	2	-	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
CO3	3	2	-	-	-	-	-	-	-	-	-	-	2	-	-
CO4	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
CO5	3	-	2	-	-	-	-	-	-	-	-	-	2	-	-
CO6	2	-	2	-	-	-	-	-	-	-	-	-	2	-	-

Course Name: CS8351- DIGITAL PRINCIPLES AND SYSTEM DESIGN

CO1	Simplify Boolean functions using KMap.
CO2	Design and Analyze Combinational and Sequential Circuits
CO3	Implement designs using Programmable Logic Devices. Write HDL codes for combinational and sequential circuits.
CO4	Analyze a memory cell and apply for organizing larger memory.
CO5	Understand and compare the concepts of programmable logic devices. Develop HDL programs for combinational and sequential circuits


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CO-PO MAPPING

CS8351- DIGITAL PRINCIPLES AND SYSTEM DESIGN															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
CO2	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
CO3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
CO4	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
CO5	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
CO6	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-

Course Name: CS8392- OBJECT ORIENTED PROGRAMMING

CO1	To understand OOPS concepts and basic characteristics of Java
CO2	To know the principles of packages, inheritance and interfaces
CO3	To define exceptions and use I/O streams
CO4	To develop a java application with threads and generics classes
CO5	To design and build simple Graphical User Interfaces
CO6	To learn and practice AWT and Swing packages


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CO-PO MAPPING

CS8392- OBJECT ORIENTED PROGRAMMING															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	3	1	2	3	-	-	-	-	-	-	-	-	2	1
CO2	2	2	2	1	3	-	-	-	-	-	-	-	-	2	2
CO3	2	3	1	2	3	-	-	-	-	-	-	-	-	3	1
CO4	2	2	2	1	3	-	-	-	-	-	-	-	-	2	2
CO5	2	3	3	2	3	-	-	-	-	-	-	-	-	2	2
CO6	3	3	2	1	3	-	-	-	-	-	-	-	-	2	1

Course Name: CS8391- DATA STRUCTURE

CO1	To understand the concepts of ADTs
CO2	To Learn linear data structures – lists, stacks, and queues
CO3	To understand sorting, searching and hashing algorithms
CO4	To apply Tree and Graph structures
CO5	To apply the different linear and non-linear data structures to problem solutions.
CO6	To critically analyze the various sorting algorithms.

CO-PO MAPPING

CS8391- DATA STRUCTURE															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	3	1	2	2	-	-	-	-	-	-	-	2	1	1
CO2	2	2	2	1	2	-	-	-	-	-	-	-	2	2	2
CO3	2	3	1	2	1	-	-	-	-	-	-	-	3	1	2
CO4	2	2	2	3	3	-	-	-	-	-	-	-	2	2	2
CO5	2	3	3	2	3	-	-	-	-	-	-	-	2	2	2
CO6	3	3	2	2	2	-	-	-	-	-	-	-	2	1	3


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Course Name: EC8394- ANALOG AND DIGITAL COMMUNICATIONS

CO1	Apply analog and digital communication techniques.
CO2	Use data and pulse communication techniques.
CO3	Analyze Source and Error control coding.
CO4	Utilize multi-user radio communication.

CO-PO MAPPING

EC8394- ANALOG AND DIGITAL COMMUNICATIONS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	3	1	2	2	-	-	-	-	-	-	-	2	1	1
CO2	2	2	2	1	2	-	-	-	-	-	-	-	2	2	2
CO3	2	3	1	2	1	-	-	-	-	-	-	-	3	1	2
CO4	2	2	2	3	3	-	-	-	-	-	-	-	2	2	2
CO5	2	3	3	2	3	-	-	-	-	-	-	-	2	2	2
CO6	3	3	2	2	2	-	-	-	-	-	-	-	2	1	3

Course Name: CS8381- DATA STRUCTURES LAB

CO1	Enumerate functions to implement linear and non-linear data structure operations
CO2	Perform practical applications of data structures
CO3	Design and develop appropriate linear / non-linear data structure operations for solving a given problem
CO4	Apply the linear / non-linear data structure operations for a given problem based on the user needs
CO5	Exhibit ethical principles in engineering practices
CO6	Perform task as an individual and / or team member to manage the task in time


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CO-PO MAPPING

CS8381- DATA STRUCTURES LAB															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	-	-	2	1	1	-	-	-	-	2	1	1
CO2	2	2	2	1	-	1	1	1	-	-	-	-	2	1	1
CO3	1	3	2	-	-	2	1	1	-	-	-	-	2	1	1
CO4	2	2	2	2	-	2	2	1	-	-	-	-	2	1	1
CO5	3	2	1	1	-	2	1	1	-	-	-	-	2	1	1
CO6	2	1	1	1	-	1	2	1	-	-	-	-	2	1	1

Course Name: CS8383-OBJECT ORIENTED PROGRAMMING LAB

CO1	Develop and implement Java programs for simple applications that make use of classes
CO2	Develop and implement Java programs with array list
CO3	Design applications using file processing
CO4	Build software development skills using java programming for real-world applications
CO5	Apply the concepts of classes, packages, interfaces, exception handling
CO6	Develop applications using generic programming and event handling

CO-PO MAPPING

CS8383-OBJECT ORIENTED PROGRAMMING LAB															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	1	-	-	-	-	-	-	-	-	2	2	-
CO2	3	2	2	1	-	-	-	-	-	-	-	-	2	2	-
CO3	3	2	2	1	-	-	-	-	-	-	-	-	2	2	-
CO4	3	2	2	1	-	-	-	-	-	-	-	-	3	2	-


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CO5	3	2	2	1	-	-	-	-	-	-	-	-	-	2	2	-
CO6	3	2	2	1	-	-	-	-	-	-	-	-	-	2	2	-

Course Name: CS8382-DIGITAL SYSTEMS LAB

CO1	Interpret Combinational circuits Using Logic gates.
CO2	Illustrate Combinational circuits Using MSI Devices
CO3	Practice various counters using Flip-flops.
CO4	Practice shift registers using Flip-flops
CO5	Solve verilog codes for the design of digital circuits.
CO6	Perform task as an individual and / or team member to manage the task in time

CO-PO MAPPING

CS8382-DIGITAL SYSTEMS LAB															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-
CO2	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-
CO3	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-
CO4	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-
CO5	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-
CO6	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-

Course Name: HS8381-INTERPERSONAL SKILLS / LISTENING AND SPEAKING

CO1	Listen and react by giving verbal and non verbal feedback.
CO2	To make effective contribution in Group Discussions.
CO3	Compare and Contrast the ideas from multiple choices and summarize.
CO4	Respond confidently in both Formal and Informal conversations.
CO5	To Greet and to respond to Greetings.


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CO6	Apply stress and intonation while speaking to make the presentation effective.
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CO-PO MAPPING

HS8381-INTERPERSONAL SKILLS / LISTENING AND SPEAKING															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	2	3	-	3	-	-	-
CO2	-	-	-	-	-	-	-	-	3	2	-	3	-	-	-
CO3	-	-	-	-	-	-	-	-	2	2	-	3	-	-	-
CO4	-	-	-	-	-	-	-	-	2	2	-	3	-	-	-
CO5	-	-	-	-	-	-	-	-	3	2	-	3	-	-	-
CO6	-	-	-	-	-	-	-	-	2	3	-	2	-	-	-

SEMESTER IV

Course Name: **MA8351 - DISCRETE MATHEMATICS**

CO1	Have knowledge of the concepts needed to test the logic of a program.
CO2	Have an understanding in identifying structures on many levels.
CO3	Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science.
CO4	Be aware of the counting principles.
CO5	Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.

CO-PO MAPPING

MA8351 - DISCRETE MATHEMATICS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	3	-	-	-	-	-	-	-	-	-	-	-	-
CO2	3	2	3	-	-	-	-	-	-	-	-	-	-	-	-


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CO3	2	2	3	-	-	-	-	-	-	-	-	-	-	-	-
CO4	2	2	3	-	-	-	-	-	-	-	-	-	-	-	-
CO5	3	2	3	-	-	-	-	-	-	-	-	-	-	-	-
CO6	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-

Course Name: **CS8491-COMPUTER ARCHITECTURE**

CO1	Describe the basic structures of a computer system.
CO2	Explain the various arithmetic operations for computers.
CO3	Analyze pipelined control units and the different types of hazards in the instructions.
CO4	Interpret the concepts of parallel processing architecture
CO5	Summarize the fundamentals of memory system.
CO6	Describe the concepts of I/O system

CO-PO MAPPING

CS8491-COMPUTER ARCHITECTURE															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
CO3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO4	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
CO5	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
CO6	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-

Course Name: **CS8492-DATABASE MANAGEMENT SYSTEMS**

CO1	Discuss the fundamental concepts of relational database and SQL
CO2	Use ER model for Relational model mapping to perform database design effectively
CO3	Summarize the properties of transactions and concurrency control mechanisms
CO4	Outline the various storage and optimization techniques


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CO5	Compare and contrast various indexing strategies in different database systems
CO6	Explain the different advanced databases

CO-PO MAPPING

CS8492-DATABASE MANAGEMENT SYSTEMS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO2	3	2	2	-	-	-	-	-	-	-	-	-	2	3	-
CO3	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO4	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO5	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO6	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-

Course Name: CS8451-DESIGN AND ANALYSIS OF ALGORITHMS

CO1	Discuss the fundamental concepts problem solving algorithm, its types and the parameters to analyze those algorithms
CO2	Explain the Brute Force method and Divide and Conquer method to solve computing problems.
CO3	Explain the dynamic programming and greedy techniques to solve computing problems.
CO4	Describe how scientific problems can be solved using iterative method and how to cope with limitations of algorithm power.
CO5	Critically analyze the different algorithm design techniques for a given problem based on its time and space complexity.
CO6	Discuss the fundamental concepts problem solving algorithm, its types and the parameters to analyze those algorithms

CO-PO MAPPING

CS8451-DESIGN AND ANALYSIS OF ALGORITHMS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3


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CO1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO3	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO4	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO5	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO6	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-

Course Name: **CS8493-OPERATING SYSTEMS**

CO1	Explain the overall view of the computer system and operating system
CO2	Identify various scheduling algorithm and deadlock prevention and avoidance algorithm
CO3	Compare and contrast various memory management schemes and file system functionalities
CO4	Discuss the performance of the various page replacement algorithms and Interpret the file system implementation, sharing and protection mechanisms.
CO5	Demonstrate administrative tasks on Linux servers and to be familiar with the basics of Mobile OS.
CO6	Explain the overall view of the computer system and operating system

CO-PO MAPPING

CS8493-OPERATING SYSTEMS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO3	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO4	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO5	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO6	3	2	2	-	-	-	-	-	-	-	-	-	2	3	-

Course Name: **GE8291-ENVIRONMENTAL SCIENCE AND ENGINEERING**

CO1	Summarize the values, threats, conservation of biodiversity and ecosystems
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CO2	Discuss the sources, effects, control measures of different types of pollution, and solid waste management
CO3	Associate the effects of exploitation of Natural resources on environment
CO4	Summarize the water conservation methods and various environmental acts for environmental sustainability
CO5	Explain the effect of Human population and role of IT in environment and human health
CO6	Discuss scientific, technological, economic and social solutions to environmental problems

CO-PO MAPPING

GE8291-ENVIRONMENTAL SCIENCE AND ENGINEERING															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	2	3	-	-	2	-	-	-	-	-
CO2	2	-	-	-	-	2	3	-	-	2	-	-	-	-	-
CO3	2	-	-	-	-	2	3	-	-	2	-	-	-	-	-
CO4	-	-	-	-	-	2	3	-	-	2	-	-	-	-	-
CO5	-	-	-	-	-	-	3	-	-	2	-	-	-	-	-
CO6	2	1	-	-	-	2	3	-	-	2	-	-	-	-	-

Course Name: **CS8481-DATABASE MANAGEMENT SYSTEMS LABORATORY**

CO1	Use typical data definitions and manipulation commands.
CO2	Design applications to test Nested and Join Queries
CO3	Implement simple applications that use Views
CO4	Make use of ER modeling and normalization to design and implement database
CO5	Implement applications that require a Front-end Tool
CO6	Critically analyze the use of Tables, Views, Functions and Procedures


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CO-PO MAPPING


CS8481-DATABASE MANAGEMENT SYSTEMS LABORATORY															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO2	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO4	3	2	2	-	-	-	-	-	-	-	-	-	3	2	-
CO5	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO6	3	3	3	-	-	-	-	-	-	-	-	-	2	3	-

Course Name: **CS8461-OPERATING SYSTEMS LABORATORY**

CO1	Illustrate the various CPU scheduling algorithms.
CO2	Implement deadlock avoidance and detection algorithms.
CO3	Implement semaphore concepts.
CO4	Create processes and implement IPC.
CO5	Analyze the performance of the various page replacement algorithms.
CO6	Implement file organization and file allocation strategies.

CO-PO MAPPING

CS8461-OPERATING SYSTEMS LABORATORY															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	-	-	-	-	-	-	-	-	3	2	1
CO2	3	2	2	-	-	-	-	-	-	-	-	-	3	2	1
CO3	3	2	2	-	-	-	-	-	-	-	-	-	3	2	1
CO4	3	2	2	-	-	-	-	-	-	-	-	-	3	2	1
CO5	3	2	2	-	-	-	-	-	-	-	-	-	3	2	1
CO6	3	2	2	-	-	-	-	-	-	-	-	-	3	2	1


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Course Name: **HS8461-ADVANCED READING AND WRITING**

CO1	Read and evaluate the text intelligently.
CO2	Understand parts of speech and use appropriate connectives in writing a paragraph.
CO3	To write effective job application letter.
CO4	Implement speed reading techniques.
CO5	Perform critical thinking in various professional contexts.
CO6	To prepare descriptive and narrative writing.

CO-PO MAPPING

HS8461-ADVANCED READING AND WRITING															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	2	3	-	3	-	-	-
CO2	-	-	-	-	-	-	-	-	2	2	-	2	-	-	-
CO3	-	-	-	-	-	-	-	-	2	3	-	3	-	-	-
CO4	-	-	-	-	-	-	-	-	2	2	-	3	-	-	-
CO5	-	-	-	-	-	-	-	-	3	2	-	3	-	-	-
CO6	-	-	-	-	-	-	-	-	2	2	-	2	-	-	-

SEMESTER V

Course Name: **MA8551-ALGEBRA AND NUMBER THEORY**

CO1	Summarize the notations and properties of algebraic structures such as groups, rings and fields.
CO2	Explain the concepts of finite fields and polynomials to solve problems in advanced algebra.
CO3	Associate the applications of divisibility theory and canonical decompositions.
CO4	Describe the concept of Diophantine equations and congruences and exhibit the efficient use of advanced algebraic techniques in number theory.
CO5	Extend the concepts of multiplicative functions and classical theorems.


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CO6	Associate the knowledge of integrated approach to Number theory and abstract algebra.
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CO-PO MAPPING

MA8551-ALGEBRA AND NUMBER THEORY															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-

Course Name: CS8591-COMPUTER NETWORKS

CO1	Identify various layers of network and discuss the functions of physical layer
CO2	Discuss how data flows from one node to another node with regard to data link layer
CO3	Explain the different services of network layer
CO4	Compare the different transport layer protocols and their applicability based on user requirements
CO5	Describe the working of various application layer protocols
CO6	Evaluate the performance of network and analyze routing algorithms

CO-PO MAPPING

CS8591-COMPUTER NETWORKS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-


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CO4	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-
CO5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-

Course Name: **CS8494-SOFTWARE ENGINEERING**

CO1	Identify the key activities in managing a software project and recognize different process model
CO2	Explain the concepts of requirements engineering and Analysis Modeling.
CO3	Outline the systematic procedures for software design and deployment.
CO4	Compare various testing and maintenance methods
CO5	Interpret the project schedule, estimate project cost and effort required.
CO6	Develop a software using the software engineering principles

CO-PO MAPPING

CS8494-SOFTWARE ENGINEERING															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO4	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO5	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
CO6	3	2	2	-	-	-	-	-	-	-	-	-	2	3	-

Course Name: **EC8691-MICROPROCESSORS AND MICROCONTROLLERS**

CO1	Explain the architecture and instruction set of Microprocessor
CO2	Discuss about System Bus Structure for Multiprocessor Configuration
CO3	Infer the functions of various interfacing integrated chips
CO4	Explain the architectures and instruction set of Microcontroller


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CO5	Illustrate the functions of various interfacing devices with Microcontroller
CO6	Build an assembly language program for interfacing

CO-PO MAPPING

EC8691-MICROPROCESSORS AND MICROCONTROLLERS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	-	-	-	2	-	-
CO2	2	1	-	-	-	-	-	-	-	-	-	-	2	-	-
CO3	2	1	-	-	-	-	-	-	-	-	-	-	2	-	-
CO4	2	1	-	-	-	-	-	-	-	-	-	-	2	-	-
CO5	2	1	-	-	-	-	-	-	-	-	-	-	2	-	-
CO6	3	2	1	-	-	-	-	-	-	-	-	-	2	-	-

Course Name: IT8501- WEB TECHNOLOGY

CO1	Design simple web pages using markup languages like HTML and XHTML.
CO2	Create dynamic web pages using DHTML and java script that is easy to navigate and use
CO3	Program server side web pages that have to process request from client side web pages.
CO4	Represent web data using XML and develop web pages using JSP.
CO5	Understand various web services and how these web services interact.
CO6	Develop real time application using server side programming and Web Services

CO-PO MAPPING

IT8501- WEB TECHNOLOGY															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	2	3	1	-	-	-	-	-	-	3	2	-


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CO2	3	3	3	3	3	2	-	-	-	-	-	-	3	3	-
CO3	3	3	3	3	3	1	-	-	-	-	-	-	3	3	-
CO4	3	3	3	3	3	1	-	-	-	-	-	-	3	3	-
CO5	3	3	3	3	3	1	-	-	-	-	-	-	3	3	-
CO6	3	2	3	3	3	1	-	-	-	-	-	-	3	2	-

Course Name: **IT8501- WEB TECHNOLOGY**

CO1	Design simple web pages using markup languages like HTML and XHTML.
CO2	Create dynamic web pages using DHTML and java script that is easy to navigate and use
CO3	Program server side web pages that have to process request from client side web pages.
CO4	Represent web data using XML and develop web pages using JSP.
CO5	Understand various web services and how these web services interact.
CO6	Develop real time application using server side programming and Web Services

CO-PO MAPPING

IT8501- WEB TECHNOLOGY															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	2	3	1	-	-	-	-	-	-	3	2	-
CO2	3	3	3	3	3	2	-	-	-	-	-	-	3	3	-
CO3	3	3	3	3	3	1	-	-	-	-	-	-	3	3	-
CO4	3	3	3	3	3	1	-	-	-	-	-	-	3	3	-
CO5	3	3	3	3	3	1	-	-	-	-	-	-	3	3	-
CO6	3	2	3	3	3	1	-	-	-	-	-	-	3	2	-


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Course Name: **OAN551-SENSORS AND TRANSDUCERS**

CO1	Expertise in various calibration techniques and signal types for sensors.
CO2	Apply the various sensors in the Automotive and Mechatronics applications
CO3	Study the basic principles of various smart sensors.
CO4	Implement the DAQ systems with different sensors for real time applications

CO-PO MAPPING

OAN551-SENSORS AND TRANSDUCERS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	2	3	1	-	-	-	-	-	-	3	2	-
CO2	3	3	3	3	3	2	-	-	-	-	-	-	3	3	-
CO3	3	3	3	3	3	1	-	-	-	-	-	-	3	3	-
CO4	3	3	3	3	3	1	-	-	-	-	-	-	3	3	-

Course Name: **EC8681-MICROPROCESSORS AND MICROCONTROLLERS LABORATORY**

CO1	Interpret the architecture and operation of microprocessor (8086).
CO2	Implement simple assembly language programs using instruction sets of microprocessor and microcontroller.
CO3	Compare instruction sets of 8086 microprocessor and 8051 microcontroller.
CO4	Implement assembly language programs using instruction sets of microcontroller.
CO5	Develop applications using instructions of microprocessors and microcontroller.
CO6	Interpret the architecture and operation of microcontroller(8051)


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CO-PO MAPPING

EC8681-MICROPROCESSORS AND MICROCONTROLLERS LABORATORY

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO4	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-

Course Name: CS8581-NETWORKS LABORATORY

CO1	Implement various protocols using TCP and UDP
CO2	Compare the performance of different transport layer protocols
CO3	Use simulation tools to analyze the performance of various network protocols
CO4	Analyze various routing algorithms
CO5	Implement error correction codes
CO6	Explain Network simulator (NS) and Simulate Congestion Control Algorithms using NS

CO-PO MAPPING

CS8581-NETWORKS LABORATORY

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	2	-	-	-	-	-	-	-	2	1	1
CO2	2	1	1	-	1	-	-	-	-	-	-	-	2	1	1
CO3	3	2	2	-	3	-	-	-	-	-	-	-	2	1	1
CO4	3	2	2	-	2	-	-	-	-	-	-	-	2	1	1
CO5	3	2	2	-	1	-	-	-	-	-	-	-	2	1	1
CO6	3	2	2	-	3	-	-	-	-	-	-	-	2	1	1


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Course Name: CS8581-NETWORKS LABORATORY

CO1	Implement various protocols using TCP and UDP
CO2	Compare the performance of different transport layer protocols
CO3	Use simulation tools to analyze the performance of various network protocols
CO4	Analyze various routing algorithms
CO5	Implement error correction codes
CO6	Explain Network simulator (NS) and Simulate Congestion Control Algorithms using NS

CO-PO MAPPING

CS8581-NETWORKS LABORATORY															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	2	-	-	-	-	-	-	-	2	1	1
CO2	2	1	1	-	1	-	-	-	-	-	-	-	2	1	1
CO3	3	2	2	-	3	-	-	-	-	-	-	-	2	1	1
CO4	3	2	2	-	2	-	-	-	-	-	-	-	2	1	1
CO5	3	2	2	-	1	-	-	-	-	-	-	-	2	1	1
CO6	3	2	2	-	3	-	-	-	-	-	-	-	2	1	1

Course Name: IT8511-WEB TECHNOLOGY LAB

CO1	Design simple web pages using markup languages like HTML and XHTML.
CO2	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
CO3	Program server side web pages that have to process request from client side web pages.
CO4	Represent web data using XML and develop web pages using JSP.
CO5	Understand various web services and how these web services interact.


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CO-PO MAPPING

IT8511-WEB TECHNOLOGY LAB															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	-	-	-	-	-	-	-	-	2	1	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	2	1	-
CO3	3	2	2	-	-	-	-	-	-	-	-	-	2	1	-
CO4	3	2	2	-	-	-	-	-	-	-	-	-	2	1	-
CO5	3	2	2	-	-	-	-	-	-	-	-	-	2	1	-
CO6	3	2	2	-	-	-	-	-	-	-	-	-	2	1	-

SEMESTER VI

Course Name: IT8601- Computational Intelligence

CO1	Write, test, and debug simple Python programs.
CO2	Apply the concept of conditionals and loops in Python programs.
CO3	Develop the Python programs step-wise by defining functions and calling them.
CO4	Use Python lists, tuples, dictionaries for representing compound data.
CO5	Read and write data from/to files in Python.
CO6	Apply the concept of Pygame.

CO-PO MAPPING

IT8601- Computational Intelligence															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	-	-	-	3	-	-	2	2	2	3
CO2	2	3	3	2	2	-	-	-	2	-	-	2	3	3	2
CO3	3	3	2	2	2	-	-	-	3	-	-	2	2	2	3
CO4	2	3	2	3	2	-	-	-	2	-	-	1	2	2	2
CO5	2	3	2	2	2	-	-	-	2	-	-	3	2	3	2
CO6	3	2	3	2	3	-	-	-	3	-	-	2	1	2	3


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Course Name: CS8592-Object Oriented Analysis and Design

CO1	Students will be able to design and implement projects using OO concepts
CO2	Students will be able to use the UML analysis and design diagrams.
CO3	Students will be able to understand the various concepts and types of the design pattern..
CO4	Students will be able to apply the use case modeling and domain modeling to various domain
CO5	Students will be able to apply appropriate design patterns.
CO6	Students will be able to implement code from design and to compare and contrast various testing techniques

CO-PO MAPPING

CS8592-Object Oriented Analysis and Design															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	3	3	1	1	-	-	-	-	-	-	1	2	2	-
CO2	1	2	2	2	2	-	-	-	-	-	-	-	2	2	-
CO3	-	2	1	2	-	-	-	-	-	-	1	-	2	2	-
CO4	1	1	2	2	1	-	-	-	-	-	-	-	2	2	-
CO5	-	1	3	2	1	-	-	-	-	-	-	1	2	2	-
CO6	1	1	1	1	1	-	-	-	-	-	-	-	2	2	-

Course Name: IT8602-Mobile Communication

CO1	Understand the characteristics of mobile computing and its applications
CO2	Understand the medium access mechanisms of wireless networks.
CO3	Choose the required functionality at each layer for given application and Identify solution for each functionality at each layer
CO4	Explain the basics of mobile telecommunication system and Differentiate the functions and


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	services between generations
CO5	Understand the difference between infra structure and infra structure less network and choose the network according to the scenario.
CO6	To understand Mobile platforms and to develop Mobile applications

CO-PO MAPPING

IT8602-Mobile Communication															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	-	3	-	-	-	-	-	-	-	3	2	-
CO2	3	2	3	-	3	-	-	-	-	-	-	-	3	2	-
CO3	2	2	3	-	3	-	-	-	-	-	-	-	3	2	-
CO4	3	2	3	-	3	-	-	-	-	-	-	-	3	2	-
CO5	3	2	3	-	3	-	-	-	-	-	-	-	3	2	-
CO6	3	2	3	-	3	-	-	-	-	-	-	-	3	2	-

Course Name: CS8091- Big Data Analytics

CO1	To know the fundamental concepts of big data and analytics.
CO2	To explore tools and practices for working with big data
CO3	Analyze data by utilizing various statistical and data mining approaches
CO4	To learn about stream computing
CO5	To know about the research that requires the integration of large amounts of data
CO6	To know about handling big data.


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CO-PO MAPPING

CS8091- Big Data Analytics															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	3	-	2	-	-	-	-	-	-	2	2	-
CO2	3	3	3	3	-	2	-	-	-	-	-	-	2	2	-
CO3	3	3	3	3	-	2	-	-	-	-	-	-	2	2	-
CO4	3	3	3	3	-	2	-	-	-	-	-	-	2	2	-
CO5	3	3	3	3	-	2	-	-	-	-	-	-	2	2	-
CO6	3	3	3	3	-	2	-	-	-	-	-	-	2	2	-

Course Name: CS8092- Computer Graphics and Multimedia

CO1	Apply Illumination and color models.
CO2	Design two dimensional and three dimensional graphics.
CO3	Apply two dimensional and three dimensional transformations.
CO4	Apply clipping techniques to graphics.
CO5	Understood Different types of Multimedia File Format.
CO6	Design Basic 3d Scenes using Blender.

CO-PO MAPPING

CS8092- Computer Graphics and Multimedia															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	2	2	-	-	-	-	-	-	-	1	1	-
CO2	3	2	3	1	2	-	-	-	-	-	-	-	1	1	-
CO3	3	2	3	1	2	-	-	-	-	-	-	-	1	1	-
CO4	3	1	3	1	2	-	-	-	-	-	-	-	1	1	-
CO5	3	2	3	1	2	-	-	-	-	-	-	-	1	1	-
CO6	3	2	3	1	2	-	-	-	-	-	-	-	1	1	-


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Course Name: IT8076- SOFTWARE TESTING

CO1	Design test cases suitable for a software development for different domains.
CO2	Identify suitable tests to be carried out.
CO3	Prepare test planning based on the document
CO4	Document test plans and test cases designed.
CO5	Use automatic testing tools.
CO6	Develop and validate a test plan.

CO-PO MAPPING

CS8092- IT8076- SOFTWARE TESTING															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	2	2	-	-	-	-	-	-	-	1	1	3
CO2	3	2	3	1	2	-	-	-	-	-	-	-	1	1	3
CO3	3	2	3	1	2	-	-	-	-	-	-	-	1	1	3
CO4	3	1	3	1	2	-	-	-	-	-	-	-	1	1	3
CO5	3	2	3	1	2	-	-	-	-	-	-	-	1	1	3
CO6	3	2	3	1	2	-	-	-	-	-	-	-	1	1	3

Course Name: CS8662-MOBILE APPLICATION DEVELOPMENT LAB

CO1	Illustrate mobile applications using GUI and Layouts.
CO2	Demonstrate mobile applications using Event Listener.
CO3	Experiment with mobile applications using Databases.
CO4	Make use of mobile applications using RSS Feed, Internal/External Storage, SMS, Multithreading and GPS.
CO5	Build own mobile app for simple needs.
CO6	Model various mobile applications using different application development framework frameworks.


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CO-PO MAPPING

CS8662-MOBILE APPLICATION DEVELOPMENT LAB															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	-	-	-	-	-	-	-	-	-	-	3	2	-
CO2	3	2	-	-	-	-	-	-	-	-	-	-	2	2	-
CO3	3	2	-	-	-	-	-	-	-	-	-	-	2	2	-
CO4	3	2	-	-	-	-	-	-	-	-	-	-	2	2	-
CO5	3	2	-	-	-	-	-	-	-	-	-	-	2	3	-
CO6	3	2	-	-	-	-	-	-	-	-	-	-	2	3	-

Course Name: CS8661-MINI PROJECT

CO1	Choose problems with technical importance and societal contribution
CO2	Identify and survey the relevant literature for getting exposed to related solutions
CO3	Build project plans with feasible requirements
CO4	Analyse, design and develop adaptable and reusable solutions
CO5	Implement and test solutions to trace against the user requirements
CO6	Deploy the solutions for better manageability and provide scope for improvability

CO-PO MAPPING

CS8661-MINI PROJECT															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	-	-	-	-	-	-	-	-	-	-	3	2	-
CO2	3	2	-	-	-	-	-	-	-	-	-	-	2	2	-
CO3	3	2	-	-	-	-	-	-	-	-	-	-	2	2	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	2	3	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	2	3	-


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Course Name: **HS8581-PROFESSIONAL COMMUNICATION**

CO1	Employ adequate soft skills to successfully execute the job on hand.
CO2	To respond favorably to the values of others opinion and manage difficult Situations in group discussions wisely.
CO3	To execute various skills in grooming for any profession.
CO4	To display the body language in a very pleasant manner and react to even tough Situations with ease.
CO5	To perform intelligently during job interviews and be successful.
CO6	Exhibit ethical principles in engineering practices

CO-PO MAPPING

HS8581-PROFESSIONAL COMMUNICATION															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	-	2	-	-	-	-	-	-	-	-	-	-	-
CO2	3	2	-	3	-	-	-	-	-	-	-	-	-	-	-
CO3	2	3	-	3	-	-	-	-	-	-	-	-	-	-	-
CO4	3	2	-	3	-	-	-	-	-	-	-	-	-	-	-
CO5	2	2	-	3	-	-	-	-	-	-	-	-	-	-	-
CO6	2	3	-	2	-	-	-	-	-	-	-	-	-	-	-

SEMESTER VII

Course Name: **MG8591 PRINCIPLES OF MANAGEMNET**

CO1	To enable the students to study the evolution of Management
CO2	To make students to understand planning, organizing, staffing, leading & controlling.
CO3	to study the functions and principles of management and principles in an organization
CO4	To have clear understanding of managerial functions
CO5	Students able to learn the application of the principles in an organization
CO6	Students can able to establish relationship between cause and effect so that they can be used in similar situations.


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CO-PO MAPPING

MG8591 PRINCIPLES OF MANAGEMNET															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	-	-	1	-	3	2	3	3	3	1	-	-
CO2	3	2	2	-	-	1	-	1	2	1	3	1	2	3	-
CO3	-	3	-	3	-	1	-	1	2	2	3	1	-	3	3
CO4	-	3	3	3	3	1	-	1	1	1	3	1	-	3	3
CO5	3	3	2	-	-	1	-	1	1	1	2	1	-	3	3
CO6	3	3	3	2	3	1	-	1	2	1	1	1	-	3	3

Course Name: CS8792 - Cryptography and Network Security

CO1	Describe the fundamentals of networks security, security architecture, threats and vulnerabilities
CO2	Discuss the mathematical support for both symmetric and asymmetric key cryptography
CO3	Make use of symmetric key cryptographic algorithms to perform cryptographic operations
CO4	Solve cryptographic operations using public key cryptographic algorithms
CO5	Apply the various Authentication schemes to simulate different applications.
CO6	Explain various Security practices and System security standards

CO-PO MAPPING

CS8792 - Cryptography and Network Security															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	3	2	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	3	2	-
CO3	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
CO4	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
CO5	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
CO6	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-


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Course Name: CS8791-CLOUD COMPUTING


CO1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing.
CO2	Explain the key and enabling technologies that help in the development of cloud.
CO3	Make use of NIST cloud computing architecture to solve architecture design challenges
CO4	Explain the core issues of cloud computing such as resource management and security.
CO5	Install and use current cloud technologies.
CO6	Illustrate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.

CO-PO MAPPING

CS8791-CLOUD COMPUTING															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO2	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO3	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
CO4	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO5	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
CO6	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-

Course Name: CS8079- HUMAN COMPUTER INTERACTION

CO1	Design effective dialog for HCI
CO2	Design effective HCI for individuals and persons with disabilities.
CO3	Assess the importance of user feedback.
CO4	Explain the HCI implications for designing multimedia/ ecommerce/ e-learning Web sites.
CO5	Develop meaningful user interface


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CO-PO MAPPING

CS8079- HUMAN COMPUTER INTERACTION															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C01	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
C02	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
C03	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
C04	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
C05	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
C06	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-

Course Name: **EC8073-MEDICAL ELECTRONICS**

C01	Know the human body electro- physiological parameters and recording of bio-potentials
C02	Comprehend the non-electrical physiological parameters and their measurement – body temperature, blood pressure, pulse, blood cell count, blood flow meter etc.
C03	Interpret the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators
C04	Comprehend physical medicine methods eg. ultrasonic, shortwave, microwave surgical diathermies , and bio-telemetry principles and methods
C05	Know about recent trends in medical instrumentation

CO-PO MAPPING

EC8073-MEDICAL ELECTRONICS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C01	2	1	1	-	-	-	-	-	-	-	-	-	-	2	-
C02	2	1	1	-	-	-	-	-	-	-	-	-	-	2	-
C03	3	2	2	-	-	-	-	-	-	-	-	-	-	3	-
C04	2	1	1	-	-	-	-	-	-	-	-	-	-	2	-
C05	3	2	2	-	-	-	-	-	-	-	-	-	-	3	-
C06	3	2	2	-	-	-	-	-	-	-	-	-	-	3	-


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SEMESTER VII

Course Name: **CS8080 INFORMATION RETRIEVAL TECHNIQUES**

CO1	Interpret open source search engine framework and explore its capabilities
CO2	Apply appropriate method of classification or clustering.
CO3	Design and implement innovative features in a search engine.
CO4	Design and implement a recommender system.
CO5	Demonstrate an open source search engine framework and explore its capabilities
CO6	Demonstrate the entire process flow of a search engine

CO-PO MAPPING

CS8080-INFORMATION RETRIEVAL TECHNIQUES															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO2	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
CO3	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
CO4	3	2	2	1	-	-	-	-	-	-	-	-	2	3	-
CO5	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
CO6	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-

Course Name: **CS8074-CYBER FORENSICS**

CO1	Understand the basics of computer forensics
CO2	Apply a number of different computer forensic tools to a given scenario
CO3	Analyze and validate forensics data
CO4	Identify the vulnerabilities in a given network infrastructure.
CO5	Implement real-world hacking techniques to test system security
CO6	Implement computer forensics techniques


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CO-PO MAPPING

CS8074-CYBER FORENSICS															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	-	-	-	-	-	-	-	-	-	-	-	2	2
CO2	2	2	-	-	-	-	-	-	-	-	-	-	-	3	2
CO3	2	2	-	-	-	-	-	-	-	-	-	-	-	3	2
CO4	2	2	-	-	-	-	-	-	-	-	-	-	-	3	2
CO5	1	1	-	-	-	-	-	-	-	-	-	-	-	2	2
CO6	1	1	-	-	-	-	-	-	-	-	-	-	-	2	2

Course Name: **CS8811-PROJECT WORK**

CO1	Identify technically and economically feasible problems of social relevance
CO2	Plan and build the project team with assigned responsibilities
CO3	Identify and survey the relevant literature for getting exposed to related solutions
CO4	Analyze, design and develop adaptable and reusable solutions of minimal complexity by using modern tools
CO5	Implement and test solutions to trace against the user requirements
CO6	Deploy and support the solutions for better manageability of the solutions and provide scope for improvability

CO-PO MAPPING

CS8811-PROJECT WORK															
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	1	-	2	2	2	2	2	2	1	1	1	1
CO2	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2
CO3	3	3	3	2	2	2	2	2	2	2	2	1	2	2	2
CO4	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2
CO5	3	3	3	2	2	2	2	2	2	2	2	1	2	2	2
CO6	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2


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